

# Call for Bachelor Thesis

## “Towards a New Data Cloud with Always Fresh Data: Analyzing Existing Linked Data APIs” (in English/German)

### What is the topic?

*Linked Data wrappers* (LDWs) provide a way to bring existing Web APIs into the Semantic Web. To that end, the data returned by APIs (e.g., in JSON format) is converted into the widely used RDF format. Additionally, links to other data sources on the Web are added to the returned data. Compared to the existing Linked Open Data cloud which is of rather static nature, LDWs can provide the user always with fresh data, which is needed in many scenarios [1].

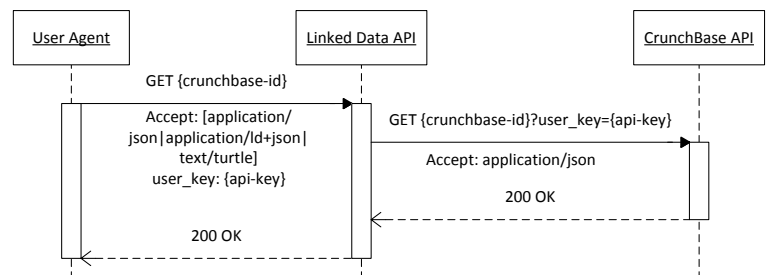


Fig. 1: Example of a Linked Data wrapper [1]: A Linked RDF API is used as “stooge” between the user agent and an existing API (here, the CrunchBase API). See also <http://linked-crunchbase.org>

Although a variety of LDWs have already been created in recent years (see, for instance, an incomplete list at [2]), a systematic collection and comparison of LDWs are missing. Hence, in this proposed thesis, the student is asked to work on the following:

1. Create systematically an up-to-date list of existing LDWs (based on publications and platforms such as datahub.io).
2. Create systematically a list of dimensions by which LDWs can be compared against each other (see, in particular, data quality dimensions, such as supported formats, trustworthiness, etc.)
3. Compare the existing LDWs by means of these dimensions (using tables and textual descriptions).
4. Optional: Conceptualize and implement a light-weight online platform which can be used for registering and monitoring LDWs, ensuring a wide and permanent use of the registered LDWs.

This thesis does only rudimentary require programming skills. Nevertheless, a systematic and scientific working style is required. The student will be provided with an initial list of relevant publications and links to platforms.

[1] [http://dbis.informatik.uni-freiburg.de/content/team/faerber/papers/CrunchBaseWrapper\\_SWJ2017.pdf](http://dbis.informatik.uni-freiburg.de/content/team/faerber/papers/CrunchBaseWrapper_SWJ2017.pdf)

[2] <https://old.datahub.io/organization/linked-data-wrappers>

### Which prerequisites should you have?

- Interest in the Semantic Web (cf. knowledge graphs, RDF) and/or Web APIs.

Keywords: Literature survey, Web APIs, Semantic Web, RDF, wrapper, Linked Open Data, data quality.

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